

OLD DOMINION UNIVERSITY

CYSE 301 CYBERSECURITY TECHNIQUES AND OPERATIONS

---

**Assignment #6: Digital Steganography**

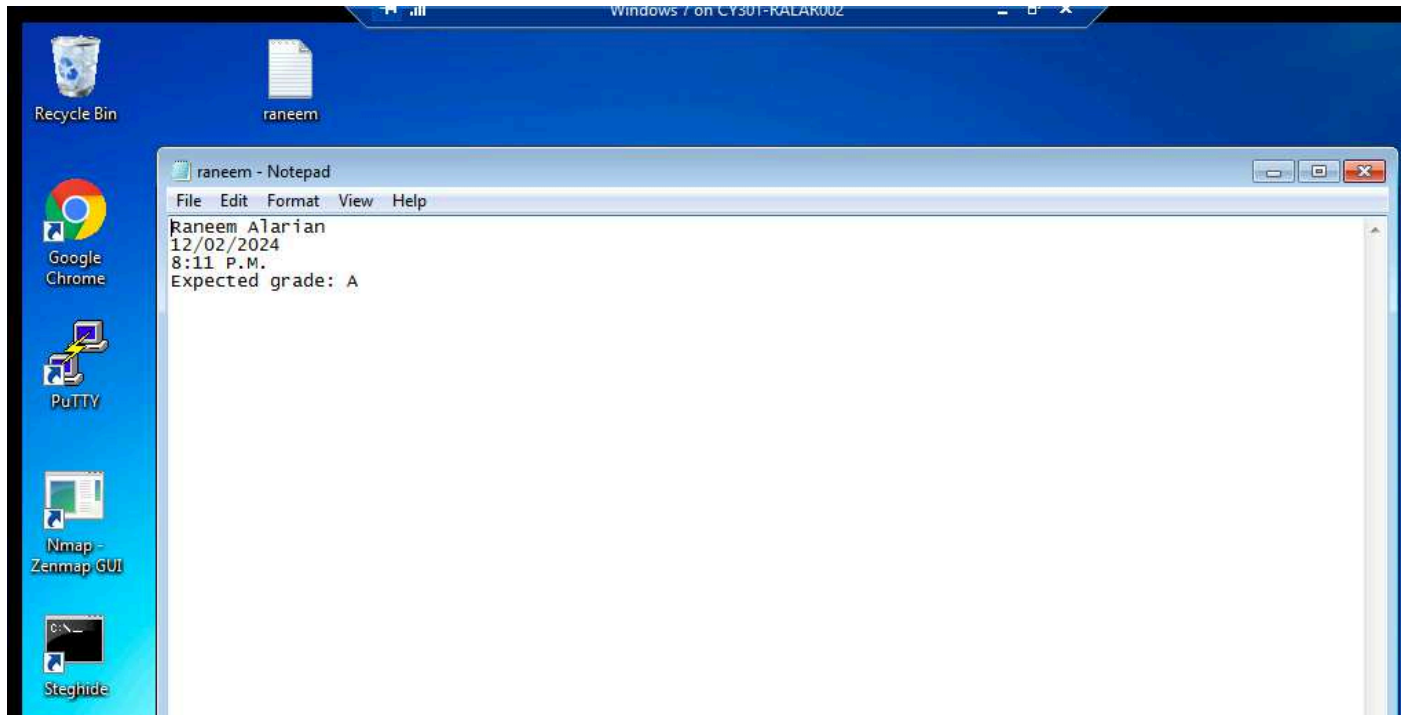
---

RANEEM ALARIAN

UIN: 01199741

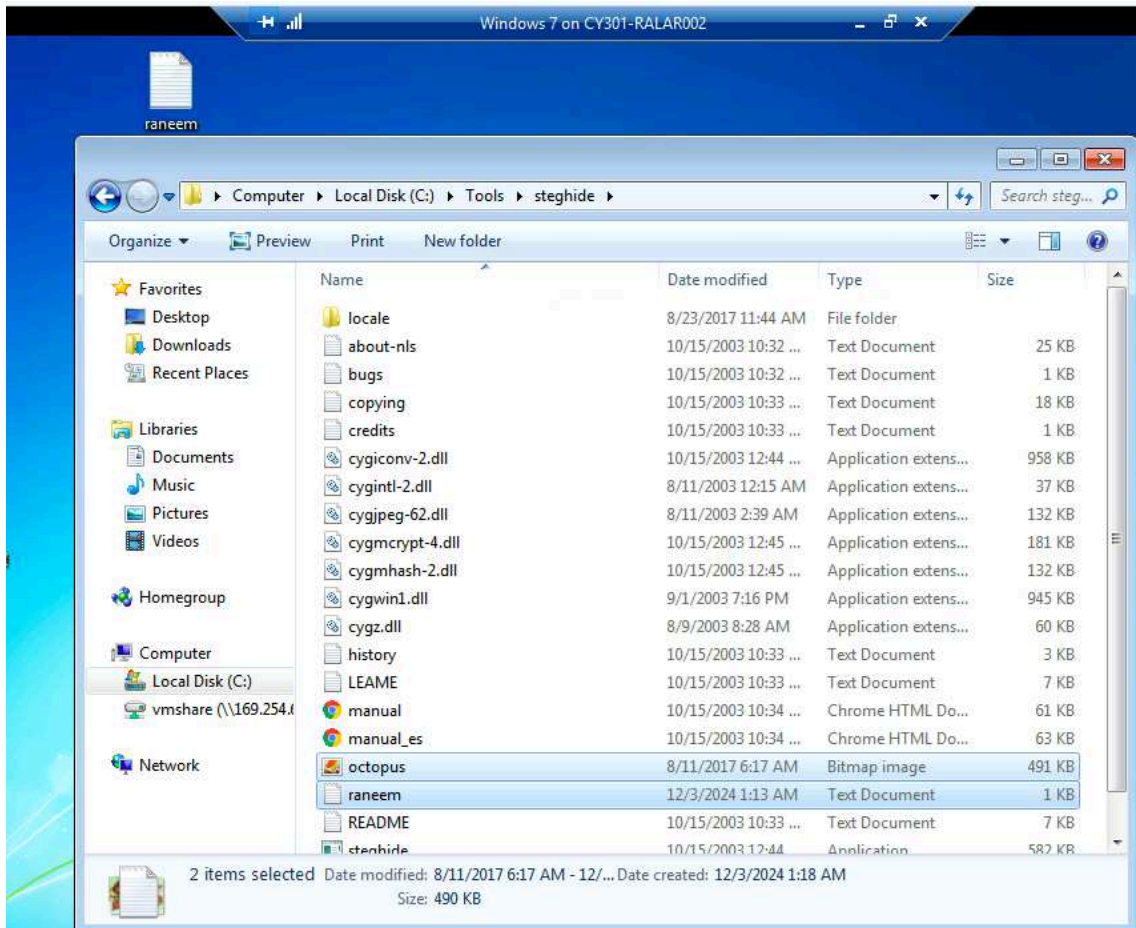
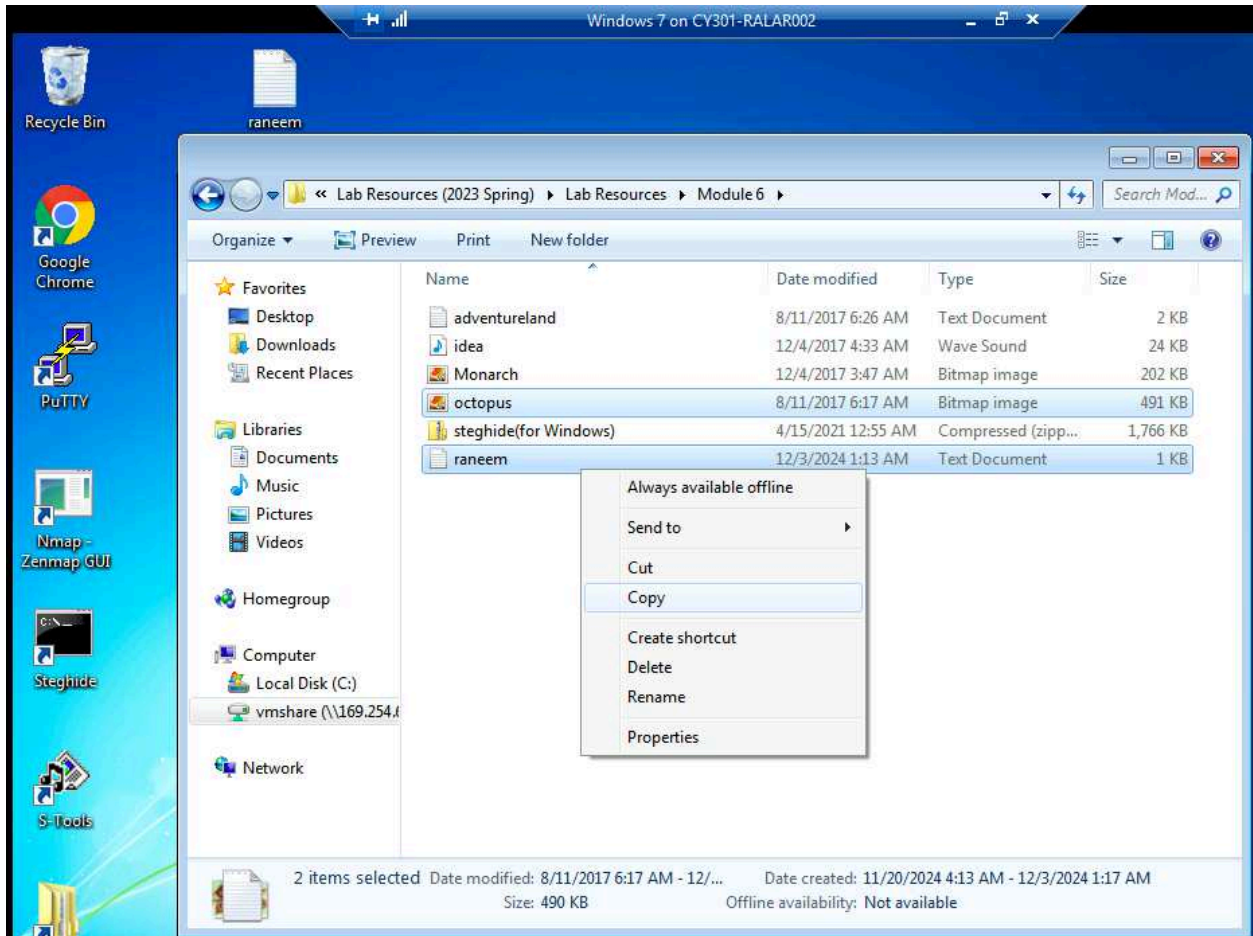
1. Create a text file containing the answers to the following questions:

- What is your name and current date and timestamp?
- What is your expected grade in this course?



2. Use steghide to hide this text file in the cover image, " octopus.bmp."

- Use your own UIN as the password for encryption (you can choose any encryption algorithm from the given options)
- Use your Midas ID (all lowercase) as the name of the STEGO file



```
C:\Steghide

18 File(s)      3,284,851 bytes
 3 Dir(s)      33,056,206,848 bytes free

C:\Tools\steghide>dir
Volume in drive C has no label.
Volume Serial Number is 70C4-E2E4

Directory of C:\Tools\steghide

12/03/2024  01:18 AM    <DIR>          .
12/03/2024  01:18 AM    <DIR>          ..
10/15/2003  09:32 AM           25,122  about-nls.txt
10/15/2003  09:32 AM            608  bugs.txt
10/15/2003  09:33 AM          18,318  copying.txt
10/15/2003  09:33 AM            912  credits.txt
10/15/2003  11:44 AM         980,992  cygiconv-2.dll
08/10/2003  11:15 PM          37,888  cygintl-2.dll
08/11/2003  01:39 AM         134,656  cygjpeg-62.dll
10/15/2003  11:45 AM         185,344  cygmcrypt-4.dll
10/15/2003  11:45 AM         134,656  cygmhash-2.dll
09/01/2003  06:16 PM         967,522  cygwin1.dll
08/09/2003  07:28 AM          61,440  cygz.dll
10/15/2003  09:33 AM          2,079  history.txt
10/15/2003  09:33 AM          6,841  LEAME.txt
08/23/2017  10:44 AM    <DIR>          locale
10/15/2003  09:34 AM         61,507  manual.pdf
10/15/2003  09:34 AM         63,678  manual_es.pdf
08/11/2017  05:17 AM         502,554  octopus.bmp
12/03/2024  01:13 AM            58  raneem.txt
10/15/2003  09:33 AM          6,506  README.txt
10/15/2003  11:44 AM         595,968  steghide.exe
10/15/2003  09:33 AM            814  todo.txt
20 File(s)      3,787,463 bytes
 3 Dir(s)      33,056,129,024 bytes free

C:\Tools\steghide>
```

```
10/15/2003  09:33 AM            814  todo.txt
20 File(s)      3,787,463 bytes
 3 Dir(s)      33,056,129,024 bytes free

C:\Tools\steghide>steghide.exe embed -ef raneem.txt -cf octopus.bmp -sf ralar.bmp
Enter passphrase:
Re-Enter passphrase:
embedding "raneem.txt" in "octopus.bmp"... done
writing stego file "ralar.bmp"... done

C:\Tools\steghide>
```

```

C:\Tools\steghide>dir
Volume in drive C has no label.
Volume Serial Number is 70C4-E2E4

Directory of C:\Tools\steghide

2/03/2024 01:23 AM <DIR> .
2/03/2024 01:23 AM <DIR> ..
10/15/2003 09:32 AM      25,122 about-nls.txt
10/15/2003 09:32 AM         608 bugs.txt
10/15/2003 09:33 AM     18,318 copying.txt
10/15/2003 09:33 AM         912 credits.txt
10/15/2003 11:44 AM    980,992 cygiconv-2.dll
08/10/2003 11:15 PM     37,888 cygintl-2.dll
08/11/2003 01:39 AM    134,656 cygjpeg-62.dll
10/15/2003 11:45 AM    185,344 cygmcrypt-4.dll
10/15/2003 11:45 AM    134,656 cygmhash-2.dll
09/01/2003 06:16 PM    967,522 cygwin1.dll
08/09/2003 07:28 AM     61,440 cygz.dll
10/15/2003 09:33 AM         2,079 history.txt
10/15/2003 09:33 AM         6,841 LEAME.txt
08/23/2017 10:44 AM <DIR> locale
10/15/2003 09:34 AM     61,507 manual.pdf
10/15/2003 09:34 AM     63,678 manual_es.pdf
08/11/2017 05:17 AM    502,554 octopus.bmp
2/03/2024 01:23 AM    502,554 ralar.bmp
2/03/2024 01:13 AM         58 raneem.txt
10/15/2003 09:33 AM         6,506 README.txt
10/15/2003 11:44 AM    595,968 steghide.exe
10/15/2003 09:33 AM         814 todo.txt
          21 File(s)      4,290,017 bytes
          3 Dir(s)    33,055,641,600 bytes free

C:\Tools\steghide>

```

3. Extract the secret message by executing steghide command with - - extract option

```

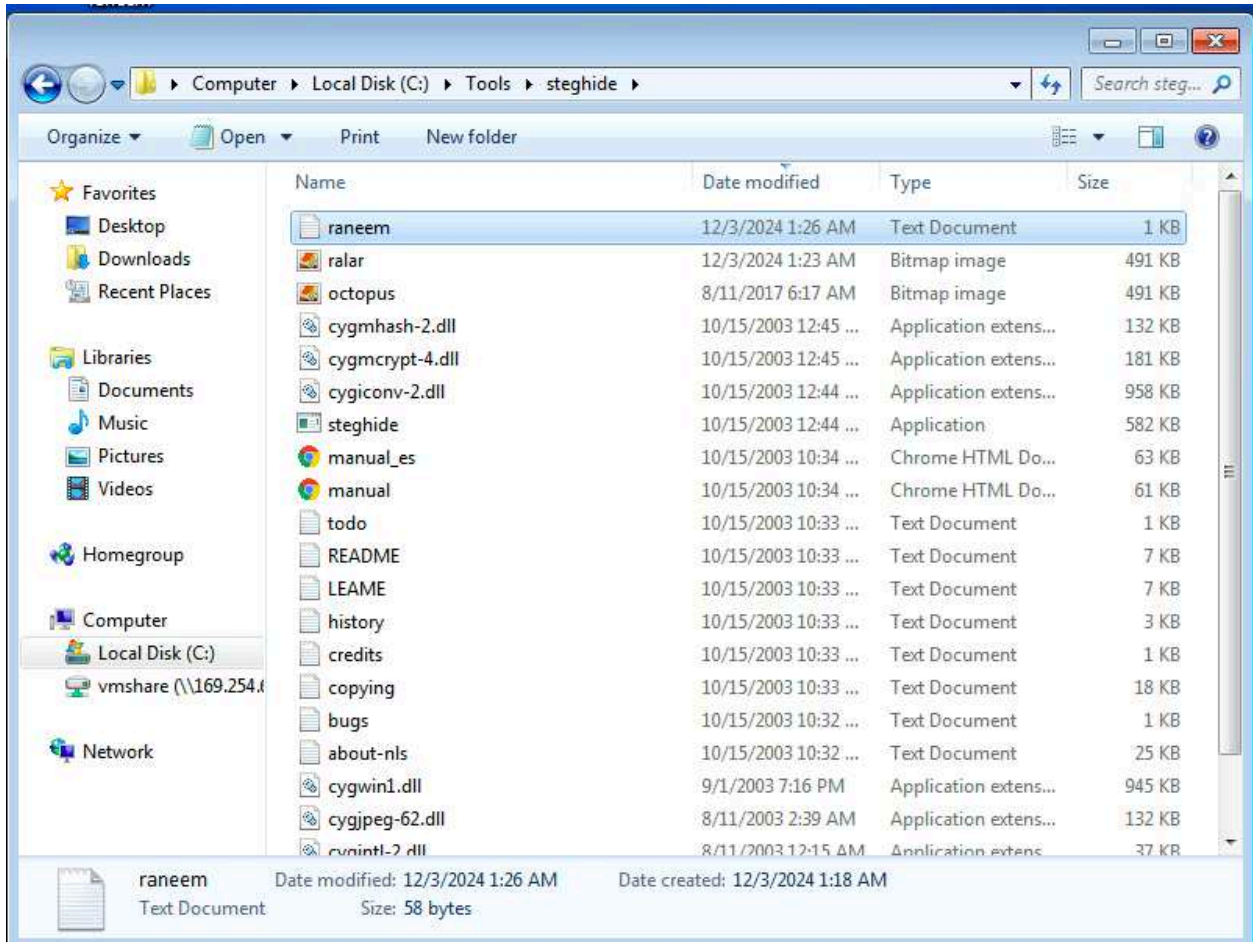
          3 Dir(s)    33,055,641,600 bytes free

C:\Tools\steghide>steghide.exe --extract -sf ralar.bmp
Enter passphrase:
the file "raneem.txt" does already exist. overwrite ? (y/n) y
wrote extracted data to "raneem.txt".

C:\Tools\steghide>

```

4. Execute the command to list the contents to verify whether the textfile with secret message has been extracted or not. You should see textfile there because it was hidden in the jpeg image file and appeared after extracting the image file in the previous step



5. Execute the command to display the contents of the file you revealed

